

Fusion devices based on the use of centimeter-size liners

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Fusion systems where a slow centimeter-size imploding liner confines a plasma with $\beta \gg 1$ have been considered. It is shown that, by using 3D liner implosions, one can reach break-even at the energy level below 100 kJ, provided the mix at the liner-fuel interface is not too strong. The possibility of controlling the mix process by creating a shear flow in the imploding liner is analyzed. A possible solution to the problem of neutron and thermo-mechanic damage to the pulse power source on the basis of the concept of "detached energy source" is discussed. Means by which energy can be transported from the pulse-power source to the disposable liner assembly may include fast projectiles and/or charged particle beams.

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